

# Tendency to Shift from Domestic Air Travel to Road Travel after the Expansion of Expressways in Sri Lanka

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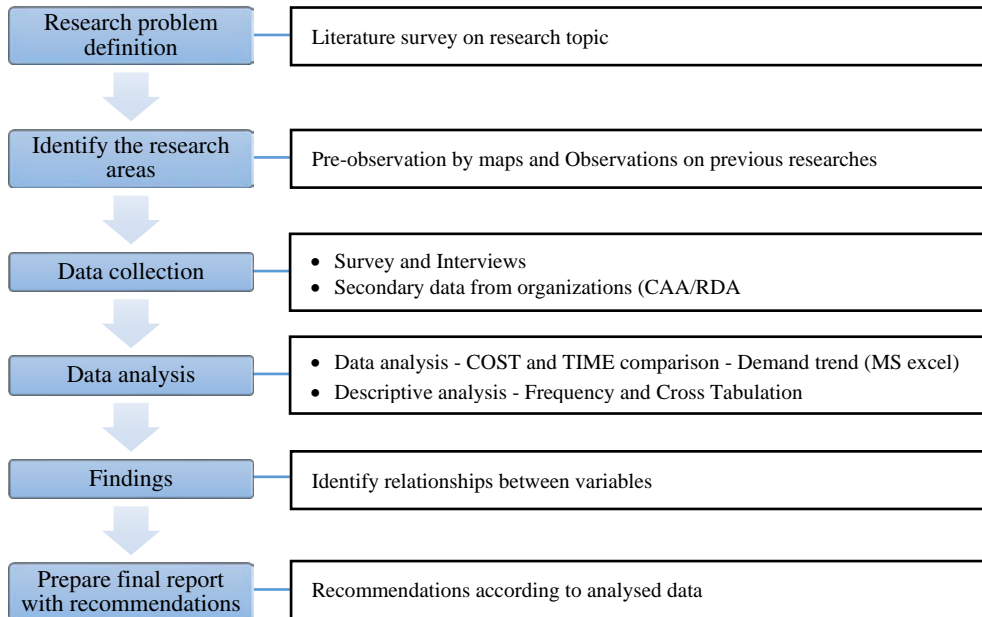
## 1. Introduction

Expressways link major cities in Sri Lanka. Upgraded road conditions and quick access to travel lend greater efficiency to the transportation system. Higher efficiency and accessibility expand economic opportunities within the country. People are more likely to use the road transportation due to easy access and high level of provision compared to domestic air transport mode. These factors have been enhanced with the expansion of expressway network while reducing travel time. Considering the competitiveness between land and air travel modes. It appears that the huge cost savings associated with use of land transport may pose a threat to domestic air travel. Alternative modes give a choice to the traveller. As they encounter mode choice opportunities, their travel preferences may not remain the same.

Mode choice analysis can be done based on various parameters. (Espino & Carlos, 2007) highlights the importance of including service quality variables when assessing transport services [1]. It also mentions that, according to the trip purpose like business and other non-leisure motives, the willingness to pay for time savings differ. A study (Can, 2013) has been done to find characteristics and attributes that influence domestic tourists' modal selection [2]. The said study provides a number of important findings which are significant in explaining tourists' modal choice decision such as travel time per kilometre, travel cost to income ratio, mode quality variables and income. Understanding tourists' modal choice behaviour may help tourism transport companies to develop appropriate marketing strategies (Can, 2013). (Park & Ha, 2006) shows that air transport services found that competing effectively in the short-haul transport market (distances of 500 km or less) is very difficult compared to high-speed rail [3]. (Chou, Aviation, & Management, 2006) points out there is a 79.8% ratio of the air passengers are willing to transfer to high-speed rail [4]. Tourism growth is anticipated to continue. There is an indirect relationship between tourism growth and demand for domestic air services. Factors influencing this include the nature and characteristics of Sri Lankan tourists, air preference for tourist destinations, the supply of domestic air services, and the availability of alternative transport options (Asia, 2016) [5]. Large airports are not essential to domestic travel in Sri Lanka. There are many waterdromes which are successful in operation. According to Cinnamon Air, their boarding time is 15 minutes while tourists should be at the terminal 30 minutes before departure. Those figures show

that a relatively short span of time is needed for terminal procedures. Further the Cinnamon Air route map shows that various domestic airports and waterdromes are providing a vast service spread through increased accessibility. Significant deviations from other countries such as many waterdromes, variety of natural places around the country and weather changes within the country which provide positive signs to the domestic aviation in Sri Lanka.

## 2. Methodology

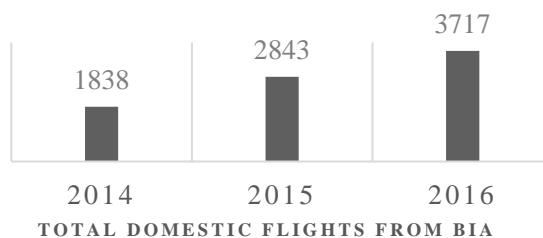


**Figure 1: Methodology**

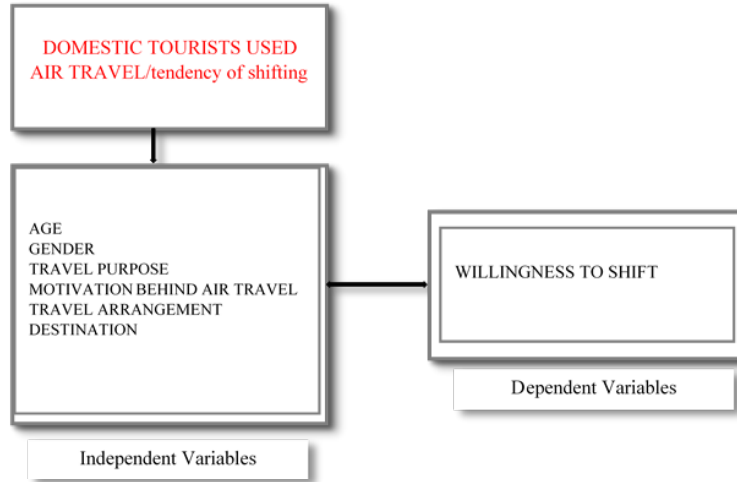
## 3. Results

The following secondary data on flight records gathered from Civil Aviation Authority of Sri Lanka reflect an increasing trend to engage in air travel, which explains the tourist attraction to Sri Lanka.

*Source: Civil Aviation Authority of Sri Lanka*



**Figure 2: Total domestic flights from BIA**



**Figure 3: Research Conceptual Model**

**Table 1: Average cost and Time comparison model draft**

Average Cost and Time Calculation									
Destination	Road path			Total Distance	Cost for the journey		Total cost		Total travel time
					Car	LHD van	Car	LHD van	
					34	45			
	Distance								
	Avg Speed								

Certain assumptions have been made when filling this table using secondary data:

- average speed: expressway - 90kmh-1 & other roads - 50kmh-1
- the fare rate is same for all tour operators.
- toll fee is based on southern expressway charges.
- addition of 30 minutes to travel time of air transport mode due to the ground handling procedure (checking and ground handling).
- this excludes the travel time to reach final destination when using air transport.

Rates for road transport modes were used according to secondary data gathered from a travel agency. Only cars and LHD vehicles (capacity - 10 seats) were compared as they are similar in capacity to domestic aircraft.

Data analysis results are as below.

Frequency table:

**Table 2: Willingness to shift to land transport mode**

		Frequency	Percent	Cumulative Percent
Valid	No	22	61.1	61.1
	Yes	14	38.9	100.0
	Total	36	100.0	

Motive\_behind\_the\_air\_travel\_choice\*Destinations Crosstabulation.

**Table 3: Willingness to shift to road transport mode**

		\$Destinations <sup>a</sup>				Total
		Trincomalee	Sigiriya	Batticaloa	NuwaraEliya Kandy	
Time	Count	13	8	1	4	26
	% of Total	36.1%	22.2%	2.8%	11.1%	72.2%
Comfort	Count	3	2	0	0	5
	% of Total	8.3%	5.6%	0.0%	0.0%	13.9%
Convenience	Count	6	0	1	3	10
	% of Total	16.7%	0.0%	2.8%	8.3%	27.8%
Scenic view	Count	2	3	1	1	7
	% of Total	5.6%	8.3%	2.8%	2.8%	19.4%
Other	Count	2	0	0	0	2
	% of Total	5.6%	0.0%	0.0%	0.0%	5.6%
Total	Count	16	10	3	7	36
	% of Total	44.4%	27.8%	8.3%	19.4%	100.0%

The Cinnamon Air domestic terminal was the survey location. Only scheduled flights were considered. Passengers per day varied between eight and 15. Most of them were in group and had similar preferences. In light of the above and time limitations, the sample was only 36.

Cross tabulation; Findings from interviews are as follows.

- Most Asian (i.e. Chinese) tourists visit Sri Lanka for business purposes. Western tourists are high-end customers.

- Especially business travellers (e.g.: those in tea and gem sectors) seek time saving.
- Most tourists contact travel agents to find out about domestic flights.
- In summer season demand is towards the east coast of Sri Lanka because of its environment and multi-culturalism.
- Cinnamon Air does not facilitate last mile solutions to reach the final destination.

#### **4. Conclusion/Recommendation**

This study was carried out with little literature and was new to the Sri Lankan context. Literature reviews from other countries and secondary data from relevant organisations were used to collect primary data and also for analysis. There were two major objectives for carrying out this research: to identify the probability of willingness to shift to land tour operators and to determine the factors affecting the choice of preferred mode of transportation. This research shows that tourists' expectations of transport service level vary according to distance. Age will affect the comfort of the service. Moreover, business travellers are reluctant to change their travel mode. But most travel for leisure, and high weightages should be given to identify their needs.

Although domestic air transport and land transport are in competition, both industries should favourably impact the country's economy. On the domestic air carrier side, they should identify deficiencies in service and customer needs to retain existing customers and attract prospective customers. There are a few suggestions/recommendations which have been mentioned while comparing the findings through analysis. According to survey data, tourists who prefer to shift have mentioned the reason for shifting as inconvenience and flexibility of return. To overcome those situations, special round trip packages for peak periods will be a solution. Domestic tour operators are not providing auxiliary services like additional transportation to reach the final destination. Then tourists have to make an effort to find a vehicle. This will reflect negatively on reliable service level. Air operators could provide these services in highly sought after destinations. Research findings tell that tourists who fly to Sigiriya are more particular about scenic views. Improving comfort level and providing additional services like more entertainment could be done as a service carrier. New technology use will give cost cutting options for entertainment. Applying a price differentiation strategy according to the peak period and destinations will create a win-win situation for both parties.

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**Keywords:** *Expressway, Domestic Aviation, Mode, Access Time, SP Survey, Cross Tabulation*